



MAKING WAVES

A maritime news brief covering:

- **MARITIME SECURITY**
- **MARITIME FORCES**
- **SHIPPING, PORTS AND OCEAN ECONOMY**
- **MARINE ENVIRONMENT**
- **GEOPOLITICS**

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CONTENTS

MARITIME SECURITY.....	3
VESSEL ATTACKED IN GULF OF GUINEA	3
JAPAN SDF DESTROYER, CHINA FISHING BOAT COLLIDE IN EAST CHINA SEA.....	3
AFTER FOUR YEARS AND NUMEROUS COMMENTS, COAST GUARD ISSUES FORMAL CYBERSECURITY GUIDANCE FOR MARINE FACILITIES	4
NAVAL RADAR MARKET SET TO REGISTER STEADY GROWTH OF 4%	8
COVID-19 : SINGAPORE POSTPONES SHANGRI-LA DIALOGUE.....	9
MARITIME FORCES	10
CHINA DEPLOYED 12 UNDERWATER DRONES IN INDIAN OCEAN.....	10
ROYAL NAVY FLEETS AND MEDICS RESPOND TO COVID-19 PANDEMIC	11
JAPAN COMMISSIONS FIRST MAYA-CLASS AEGIS DESTROYER JS MAYA.....	12
INDIA-TURKEY SIGN \$2.3B DEAL TO BUILD FLEET SUPPORT VESSELS	13
CORONAVIRUS OUTBREAK DIVERTS NAVY AIRCRAFT CARRIER TO GUAM, ALL 5,000 ABOARD TO BE TESTED	13
SHIPPING, PORTS AND OCEAN ECONOMY.....	15
SHIPPING AND LOGISTICS: AN INDUSTRY JOLTED INTO DIGITIZATION	15
SHIP MANAGER OFFERS SOLUTION TO CREW CHANGE CRISIS	17
‘HOW TO GENERATE MORE EMPLOYMENT IN MARITIME SECTOR’ ...	18
MPA: CREW CHANGE FOR CARGO SHIPS UNDER SPECIAL CIRCUMSTANCES IN THE PORT OF SINGAPORE.....	20
INDIA LNG BUYERS RETHINK SPOT PURCHASES AFTER OIL MARKET SLUMP	21
MARINE ENVIRONMENT	22
INCREASINGLY MOBILE SEA ICE RISKS POLLUTING ARCTIC NEIGHBOURS	22
SEYCHELLES ADOPTS GROUNDBREAKING MARINE PROTECTION PROGRAMME	24
GOOD NEWS FOR SHIPPING, BAD NEWS FOR IMO.....	26

SEAFLOOR OF FRAM STRAIT IS A SINK FOR MICROPLASTIC FROM ARCTIC AND NORTH ATLANTIC OCEAN	26
AMID COVID-19 CRISIS, MANILA BAY DISCOLORATION IS ALSO A PUBLIC HEALTH CONCERN. HERE’S WHY.	29
GEOPOLITICS.....	31
SAUDI ARABIA TANKER POWER PLAY COULD BACKFIRE AS OIL DEMAND SHRINKS	31
OIL TANKER RATES DOUBLE AS DEMAND FOR STORAGE AND TRANSPORT RESURFACES	32
RUSSIAN AID TO ITALY LEAVES EU EXPOSED.....	34
AMID DEMAND EROSION, CHINA LIKELY TO SUPPLY EQUITY OIL TO INDIA	35
US SPACE FORCE LAUNCHES 1ST MISSION EVEN AS ALARMING SPREAD OF COVID-19 PARALYSES COUNTRY	37
ACKNOWLEDGEMENTS.....	38

MARITIME SECURITY

VESSEL ATTACKED IN GULF OF GUINEA

- Mikhail Voytenko

Bermuda-flagged oil/chemical tanker Stena Important, operated by Concordia Maritime, was approached by a suspicious vessel at Doula Anchorage, Cameroon on March 19, 2020.

“The alarm was raised by the Officer of the Watch (OOW) and the crew mustered to their respective stations,” the company confirmed to World Maritime News.

” Following a failed attempt to board via ladder, the suspicious vessel and its crew departed the scene after a few minutes.”

According to a report from a West Africa-based consultancy firm Praesidium International, there were eight perpetrators who tried to board the vessel twice.

As informed, the onboard security team engaged the perpetrators before they aborted action. The crew and security team are reported to be safe.

Concordia Maritime told our news desk that there were no injuries sustained onboard during the incident.

“All relevant authorities and parties were notified, and a careful review will be done to assess if any further security measurements are deemed necessary in order to safely complete the current voyage,” the company said.

Based on its latest AIS data, the 2015-built IMOIIIMAX tanker is anchored in Lagos, Nigeria.

Source: maritime-connector.com; 25 March 2020

JAPAN SDF DESTROYER, CHINA FISHING BOAT COLLIDE IN EAST CHINA SEA

FUKUOKA (Kyodo) -- A Maritime Self-Defense Force destroyer and a Chinese fishing boat collided on the high seas off the coast of Shanghai on Monday, the Japan Coast Guard said.

No one was injured in the incident that occurred at around 8:30 p.m. in the East China Sea, the Self-Defense Forces' Joint Staff said. The MSDF said its destroyer and the Chinese vessel, which had 13 crew members aboard, are both still able to sail under their own power.

According to the Defense Ministry, the destroyer Shimakaze received damage on its port side. The vessel was on patrol after departing from Sasebo in Nagasaki Prefecture on Sunday morning.

The ministry said it will cooperate with the coast guard's investigation while launching a probe panel within the MSDF as well.

Source: mainichi.jp; 31 March 2020

AFTER FOUR YEARS AND NUMEROUS COMMENTS, COAST GUARD ISSUES FORMAL CYBERSECURITY GUIDANCE FOR MARINE FACILITIES

In the midst of the chaos generated by the COVID-19 pandemic, on March 20, 2020, the United States Coast Guard (USCG) released an important Navigation and Vessel Inspection Circular (NVIC 20-01) concerning “Guidelines for Addressing Cyber Risks at Maritime Transportation Security Act (MTSA) Regulated Facilities,” together with a Commandant Notice commenting on the NVIC. NVIC 20-01 has had a long path to finalization via notice and comment rulemaking, and has been discussed previously during the comment period on this blog. Ironically, given the increased threat of cyber attacks during this period when so many are working remotely via potentially vulnerable online infrastructures, this NVIC is perhaps unintentionally particularly well-timed.

NVIC 20-01 applies to MTSA-regulated “regulated facilities,” which includes “any structure or facility of any kind located in, on, under, or adjacent to any waters subject to the jurisdiction of the U.S.,” 33 C.F.R. § 101.105, “including Outer Continental Shelf [OCS] facilities” (“fixed or floating facility[ies], including MODUs” operating on the Outer Continental Shelf (OCS) and engaged in oil and gas exploration/production, 33 C.F.R. §106.105. Under the MTSA, all regulated “facilities” are required (inter alia) to submit Facility Security Assessments (FSA) and Facility Security Plans (FSP) for approval by the USCG Captain of the Port (COTP), which then remain valid for five years or until the “facility” owner or COTP initiates an amendment to the FSP further to required annual audits (33 C.F.R. 105.415). The FSA and FSP are intended (according to specifics outlined in the regulations) to identify security vulnerabilities and appropriate countermeasures to address them.

NVIC 20-01 SCOPE AND CONTENT

NVIC 20-01 as originally proposed was intended to provide guidance “on incorporating cybersecurity risks into an effective [FSA], as well as additional recommendations for policies and procedures that may reduce cyber risk to operators of maritime facilities.” 82 Fed. Reg. 32189. Indeed, the NVIC simply provides guidance for cybersecurity measures already required under the MTSA regulations:

“NVIC [20-01] does not impose any new burdens or requirements on MTSA-regulated facilities [because USCG] regulatory authority in 33 CFR parts 105 and 106 already requires MTSA-regulated facilities to evaluate their computer system and network vulnerabilities in their FSAs and address them in the FSPs.” 85 Fed. Reg. 16108, 16109 (March 20, 2020).

In the Federal Register notice promulgating NVIC 20-01, the USCG recognizes that “maritime facility safety and security systems, such as security monitoring, fire detection, and general alarm installations increasingly rely on computer systems and networks... [which] are inherently vulnerable and introduce new vulnerabilities.” 85 Fed. Reg. 16108 (March 20, 2020). Likewise, the notice points out that, although there are myriad resources and best practices available to maritime actors for addressing cybersecurity issues (several of which have been discussed on this blog), “recent [USCG] experience suggests the maritime industry may not be aware of or utilizing these resources,” and so NVIC 20-01 has been promulgated to provide a readily accessible, vetted source for guidance in this area.

Enclosure 1 to NVIC 20-01 is perhaps the most practical aspect of the document. This enclosure specifies individual MTSA regulations and provides recommended approaches for how they might be addressed in an FSA/FSP. Some of these recommended approaches provide operation-specific suggestions, including:

- “During crew or shift changes, handover notes should include cyber security related information and updates.”
- “Describe cyber-related procedures for interfacing with vessels to include any network interaction, portable media exchange, remote access, or other wireless access sharing.”
- “Describe cyber-related procedures for managing software updates and patch installations on systems used to perform or support functions identified in the FSP (e.g. identification of needed security updates, planning and testing of patch installations).”

These real-time examples – which include such detail as how to manage electronic file sharing, handle crew change notes, and keep systems up to date – give helpful insight into how cybersecurity concerns relate to granular operations. Moreover, the Federal Register notice publishing NVIC 20-01 encourages “facilities” to review the May 2018 webinar (linked here and in the notice) presented jointly by the USCG and the American Bureau of Shipping entitled “Marine Transportation System Cyber Awareness,” which “provides basic cyber awareness with a focus on maritime facility and vessel operations and provides personnel at all levels of an organization with an understanding of cyber terms and issues” that may be encountered in marine facility operations. 85 Fed. Reg. at 16110. That said, NVIC 20-01 does reiterate that “[t]hese are examples [only]: facility owners and operators may use other approaches that have greater or lesser levels of complexity if those approaches meet the regulatory requirement.”

Importantly, NVIC 20-01 is not prescriptive: “[NVIC 20-01] provides recommended practices for MTSA-regulated facilities to address ...cyber security vulnerabilities.”

Moreover, “[b]ased on industry comments [to prior drafts] ... the NVIC [was revised] to clarify its [mere] advisory nature and applicability.”

However, “Enclosure (1) [to NVIC 20-01] clarifies that MTSA regulations in 33 CFR parts 105 and 106 include a facility’s obligation [emphasis added] to assess cyber security vulnerabilities while retaining the discretion [emphasis added] over the ways to address and mitigate them.” In other words, NVIC 20-01 clarifies that while the countermeasures to address vulnerabilities in an FSP remain discretionary, “facilities” have an absolute obligation under the regulations to include cybersecurity vulnerabilities as part of their FSA. Simply put, NVIC 20-01 “does not include a checklist or otherwise prescribe cyber security solutions,” but simply emphasizes that cybersecurity vulnerabilities must be part of the FSA/FSP process.

It is important to note that the draft NVIC originally included the following statement: “[u]ntil specific cyber risk management regulations are promulgated, facility operators may use this document as guidance to develop and implement measures and activities for effective selfgovernance of cyber vulnerabilities.” This provision was removed in the final version, again emphasizing that NVIC 20-01 is merely intended to provide helpful guidance, not prescriptive measures.

Likewise, the original draft NVIC also included a second enclosure, namely the National Institute of Standards and Technology (NIST) Cyber Security Framework (CSF) and NIST Special Publication 800–82, which are cybersecurity guidelines promulgated by the leading U.S. governmental entity in the realm of cybersecurity in general. Based on confusion as to Enclosure (2) during the comment period – widely ranging from commenters mistakenly believing the NIST standards were requirements to others suggesting that more detail and specification was required to apply those standards – the USCG removed the enclosure from the final version of the NVIC. However, NVIC 20-01 does include a sentence “encouraging the use of the NIST CSF as a means to improve a facility’s cyber posture above what is outlined in the NVIC” (id. at 16109) but at the same time notes the availability of myriad other “resources, technical standards and recommended practices available to the marine industry” for addressing cybersecurity issues (NVIC 20-01, p. 3)

“Facility” owners may comply with their cybersecurity FSA and FSP obligations via the amendment process either by including a standalone cybersecurity annex to their FSP, or by amending specific relevant sections of the FSP to address cybersecurity issues. Additionally, NVIC 20-01 confirms that “facilities” may utilize an Alternative Security Program (ASP) to address cybersecurity concerns. ASPs are a third party or industry organization-developed standard that the USCG Commandant has determined provides an equivalent level of security as that required by the MTSA.

Likewise, while some commenters questioned whether NVIC 20-01 effectively requires “facilities” to designate a Facility Security Officer (FSO) (33 C.F.R. §105.205) with sophisticated technical knowledge of cybersecurity and/or to include their entire IT department among those designated “facility personnel with security duties” (33 C.F.R. §105.210). In response, the USCG has simply stated that “facilities” must do whatever is necessary specific to their cyber infrastructure and operations to ensure that their FSA and FSP adequately account for cybersecurity vulnerabilities. Accordingly, designation of FSOs and “personnel with security duties” may

(depending on the circumstances) need to include IT departments or additional cyber-savvy personnel. Nonetheless, NVIC 20-01 itself expressly provides that “each individual facility should determine the organizational structure; number of employees; the employee roles, responsibilities, and access permissions; and, the employee training needed so that its security personnel can address the facility’s cyber security risks” (Encl. 1, p. 2).

REMINDER TO REPORT CYBERSECURITY INCIDENTS

Importantly, NVIC 20-01 reconfirms that cyber incidents of any kind must be reported to the USCG, and reporting to other law enforcement entities will not satisfy the USCG “requirements for reporting suspicious cyber related activity or breaches of security for MTSA-regulated entities [as] outlined in CG-5P Policy Letter 08-16 titled ‘Reporting Suspicious Activity and Breaches of Security.’”

TIMELINE FOR APPLICABILITY

The Commandant Notice accompanying publication of NVIC 20-01 critically notes that there will be a one-and-a-half-year implementation period (for updating FSA/FSP/ASPs), terminating on September 30, 2021, for the new guidance provided under the NVIC. New cyber FSA and FSP/ASP amendments or annexes will then be submitted after October 1, 2021 by each “facility’s” annual audit date. This initial implementation period is intended to allow “facilities” time to address their cyber-linked operations/systems/equipment and personnel requirements, but also to allow the USCG time to ramp up its own “necessary training of ... field personnel, dissemination of best practices, or similar internal alignment.” Notably, in response to comments to the NVIC suggesting that USCG might not have sufficient properly trained personnel to adequately access cyber aspects of FSA/FSPs, the USCG confirmed that it “will assess its needs and may address this issue in the future through internal policy or guidance to [USCG] personnel,” but nonetheless reiterated that “facilities” must comply on their own in the interim.

WHAT’S ON THE HORIZON

NVIC 20-01 is a formal, notice-and-comment rulemaking step in what has been a steady march by the USCG to stay on the tip of the spear in terms of maritime cybersecurity. And while NVIC 20-01 addresses only “facilities,” its guidance will necessarily affect vessel operations at MTSA facilities. Moreover, given that vessels themselves are required to have FSAs/FSPs under the MTSA regulations (33 C.F.R. Part 103), similar formal guidance is likely coming for vessel owners/operators as well. Indeed, the Federal Register notice for NVIC 20-01 indicates as much: “The [USCG] notes this NVIC was not meant to address vessels. It addresses MTSA-regulated facilities only. We will consider addressing cyber security vulnerabilities for vessels in the future.” 85 Fed. Reg. at 16114. Further, such guidance will presumably be fairly imminent in light of the January 1, 2021 deadline set by the International Maritime Organization for all ISM Code-regulated vessels “to ensure that cyber risks are appropriately addressed in existing safety management systems (as defined in the ISM Code).” Thus, in the interim until formal vessel-specific guidance is issued, prudent owners/operators would be well served to adapt these “facility”-based best practices to their own shipboard and shoreside operations and systems.

Source: [jdsupra.com](https://www.jdsupra.com); 27 March 2020

NAVAL RADAR MARKET SET TO REGISTER STEADY GROWTH OF 4%

The global naval radar market is estimated to grow at a steady compound annual growth rate (CAGR) of over 4% between 2019 and 2029 and reach a value of \$2.1 billion by the end of the forecast period, according to a new study.

Heightened defence spending for strengthening naval fleets and securing coastlines is anticipated to drive the market for naval radars during the forecast period. Strengthening coastal surveillance and adoption of e-navigation technologies are estimated to propel the demand growth for naval radars.

Emerging countries offer lucrative growth opportunities for international naval radar manufacturers. Geopolitical threats and maritime disputes, piracy and terrorism have shifted the focus of regional navies to enhance surveillance abilities and mitigate threats to coastlines. Advancements in security and functionality and a proliferating defence sector is set to offer remunerative opportunities for the naval radar market in the foreseeable future, according to the study by Fact.MR.

At the country level, China has shown high growth potential in recent years owing to the increasing shipbuilding industry and naval expansion. The country is expected to showcase moderate growth of 3% in the near future.

North America and Europe collectively remain key regions with a robust shipbuilding industry and highly diverse vessel repair and maintenance services; the region is expected to dominate the demand for naval radars. The two regions cumulatively account for more than 35% share in the global naval radar market.

Surveillance radars will continue to account for bulk demand share and grow 1.3 times during the forecast period. This can be attributed to growing competition between nations for maritime resources utilized for scanning, searching, and identifying targets.

Navigation is another segment that is heightening the demand for naval radars owing to the need to track in a variety of situations and collision avoidance. The segment is anticipated to witness 1.5 times growth by the end of forecast period.

“Up-gradation of existing radar platforms with a shift from specialized radar systems to multi-band and multi role radar systems will positively affect the demand for naval radars in the foreseeable future. With rising terrorist activities across the globe and geopolitical threats, the demand for advanced naval radars will proliferate” the report said.

Leading players such as Lockheed Martin Corporation, Northrop Grumman Corporation, Raytheon Company, Saab AB, and BAE Systems are key stakeholders and account for more than half of the share in the global market. Most of these players have bases in Europe and North America as the regional policies are favouring private sector involvement in defence technology development. Product innovations and efforts for

offering advanced technology and customized solutions, will emerge as a prime differentiating factors in the long term forecast period. Market players must then invest in research and development to differentiate their offerings in a consolidated market.

Source: defenceweb.co.za; 27 March 2020

COVID-19 : SINGAPORE POSTPONES SHANGRI-LA DIALOGUE

Singapore has postponed Shangri-La dialogue scheduled for June 5 to 7 in the backdrop of coronavirus outbreak.

Shangri-La dialogue is a top-level regional security forum hosted by Singapore.

The calling-off of the forum - according to sources familiar with the matter - comes as countries around the world tighten their borders to combat the spread of the coronavirus, reported the Straights Times.

Singapore took the unprecedented step of not allowing short-term visitors to enter or transit through the country from Monday (March 23), in a move to reduce the risk of importing Covid-19 cases.

The authorities also announced on Tuesday (March 24) that all events and mass gatherings, such as conferences, festivals, and sporting events, must be deferred or cancelled until at least April 30, regardless of size. Previously, they were to be limited to fewer than 250 participants.

This marks the first time that the annual Shangri-La Dialogue has been called off since it was first launched in 2002. It is usually held in June at the Shangri-La Hotel.

This year would have been the 19th edition of the talks organized by the London-based International Institute for Strategic Studies (IISS).

The forum gathers top defense officials from around the world to discuss security issues affecting the region, such as maritime security and regional stability.

As per WHO over 542,378 confirmed cases have been reported worldwide and over 24,368 people have lost their lives to the infectious coronavirus.

Source: ANI; 27 March 2020

MARITIME FORCES

CHINA DEPLOYED 12 UNDERWATER DRONES IN INDIAN OCEAN

- H I Sutton

China has deployed a fleet of underwater drones in the Indian Ocean. According to Chinese government sources, the drones were launched in mid-December 2019 and recovered in February after making more than 3,400 observations. These Sea Wing gliders are a type of Uncrewed Underwater Vehicle (UUV) which can operate for months on end.

The gliders are similar to ones deployed by the U.S. Navy. When China seized a U.S. Navy ocean glider in 2016 the stated reason was to ensure “safe navigation of passing ships.” Taken at face value, it may be surprising that China is now deploying these types of UUV en masse in the Indian Ocean. China has also deployed the Sea Wing from an ice breaker in the Arctic.

Reports from December 2019 suggested that 14 would be employed in the Indian Ocean mission. But newer reports suggest that only 12 were used. Possibly there were technical issues with the other two. They were launched by the specialist survey ship Xiangyanghong 06 which has since returned to Rizhou in China. The mission was the winter survey for the Joint Ocean and Ecology Research Project run by the Ministry of Natural Resources.

The Sea Wing (Haiyi) bear a striking resemblance to the Littoral Battlespace Sensing-Glider (LBS-G) used by the U.S. Navy. On December 15, 2016, China obtained a U.S. Navy LBS-G in international waters in the South China Sea. The glider was in the process of being recovered by USNS Bowditch when a small boat from a Chinese vessel which had been shadowing the Navy vessel plucked it from the water. After a diplomatic spat the glider was returned to a U.S. Navy warship.

The Sea Wing isn't a case of reverse engineering however. It was reported in Chinese sources in September 2016, months before the U.S. Navy incident. But the American type is a clear influence and they are generally equivalent.

These gliders are unpowered. Instead they employ variable-buoyancy propulsion which makes them sink and then rise to the surface again. This is done by inflating and deflating a balloon-like device filled with pressurized oil. At the same time they have large wings so they can glide forward as they go. This allows them to run for extremely long periods of time, travelling vast distances. They are not fast or agile however, so a generally employed for long range missions where they can be left alone until they need to be picked up.

The Chinese gliders were reportedly gathering oceanography data. Sensors measured seawater temperature, salinity, turbidity, chlorophyll and oxygen levels. This information was transmitted back to the mother ship via the aerial in the tail. Although the aerial points directly backwards, it swings up above the surface as the glider noses down for another dive.

This is the sort of information which sounds innocuous but is commonly gathered for naval intelligence purposes. In particular it is relevant to submarine warfare. For example salinity levels can affect the distance that a submarine can be heard from. And it may be possible to detect submarines if they disturb chlorophyll.

For its part, China continues to report finding foreign UUVs off its coast. If Chinese fishing vessel catches a glider they are to hand it over to the government. Presumably the same fate did not befall any of the Chinese gliders.

Source: [forbes.com](https://www.forbes.com); 22 March 2020

ROYAL NAVY FLEETS AND MEDICS RESPOND TO COVID-19 PANDEMIC

The Royal Navy is maintaining the deployment of 12 ships and submarines on front-line operations from the mountains of South Georgia to south-east Asia throughout the unprecedented coronavirus Covid-19 pandemic

The deployment of the vessels is aimed at keeping the UK safe and the sea lanes open for free trade flow.

As part of the military's response to Covid-19, the Royal Navy and Royal Marines Reservists are being put on standby.

In hospitals across the country, including Derriford in Plymouth and Queen Alexandra in Portsmouth, Royal Navy surgeons, GPs, nurses and medical specialists are working to treat patients with the virus.

Royal Navy head Tony Radakin said: "The Royal Navy's responsibility is to protect and defend the UK and its interests.

"In times of crisis, we are ready to support and assist the government wherever needed. But our duties remain unchanged, and we continue to deliver on operations around the world."

The Royal Navy, Royal Marines and Royal Fleet Auxiliary are continuing to perform their regular duties during the pandemic.

Destroyer HMS Defender, which is currently patrolling the Gulf and Indian Ocean, will be replaced by Frigate HMS Argyll.

New patrol ships HMS Forth and Medway will continue their missions for a longer period and will support the international fight against drug trafficking, remaining ready to provide humanitarian aid wherever it is needed.

Minehunter HMS Grimsby and frigate HMS Sutherland are supporting Nato's work on patrol in the waters of northern Europe.

Survey ships HMS Scott and Enterprise are deployed to the Atlantic and Far East to obtain data about the world's oceans.

Frigates HMS Richmond and Lancaster are carrying out post-refit trials and training in home waters.

Source: naval-technology.com; 24 March 2020

JAPAN COMMISSIONS FIRST MAYA-CLASS AEGIS DESTROYER JS MAYA

- Franz-Stefan Gady

The Japan Maritime Self-Defense Force (JMSDF) has commissioned its first Maya-class Aegis Destroyer, JS Maya (DDG-179), which features ballistic missile defence capabilities.

Japan Marine United (JMU) delivered the destroyer to the Defense Ministry at its Isogo shipyard located in Yokohama.

JS Maya, which can counter short to intermediate-range threats with the Standard Missile-3 (SM-3) Block IIA interceptor, is the newest member to join the fleet.

Sources with knowledge of the matter said the upgraded anti-ballistic missile interceptor system of the destroyer was jointly developed by Japan and the US.

Xinhua quoted JMSDF as saying that the destroyer has improved manoeuvring capabilities and offers wider defensive coverage for intercepting missiles.

Weighing 8,200t and measuring 170m in length, JS Maya features a 'Cooperative Engagement Capability' system that can determine the position of missiles and aircraft accurately.

This information will be shared with other militaries.

Defense Minister Taro Kono told media sources: "I expect (the ship) to lead our comprehensive missile air defence capabilities."

The Maya-class vessel is fitted with the Aegis Baseline J7 combat system and the AN/SPQ-9B radar system from Northrop Grumman.

JMSDF plans to deploy JS Maya at its base in Yokosuka, Kanagawa Prefecture.

The Ministry said that there are plans to add an eighth Aegis-equipped destroyer to its fleet in March next year.

In September 2018, JMSDF successfully tested an upgraded Aegis combat weapon system from onboard the service's Atago-class-guided-missile destroyer JS Atago (DDG-177).

The Japanese Flight Test Mission-05 tested the ballistic missile defence (BMD) capability of JMSDF for the first time.

Source: naval-technology.com; 20 March 2020

INDIA-TURKEY SIGN \$2.3B DEAL TO BUILD FLEET SUPPORT VESSELS

India and Turkey have finalized a \$2.3 billion (INR 17,494 crore) deal to jointly build five 45,000-tonne Fleet Support Vessels (FSVs) in India.

The project to manufacture the FSVs will be undertaken by India's Hindustan Shipyard Limited (HSL) and Turkish Shipyards.

A formal contract was signed in February after being put on hold in October, over references made to the Kashmir issue by Turkish and Pakistani leaders- President Recep Tayyip Erdogan and Prime Minister Imran Khan. "The contract was signed by HSL last month after clearances were given by the Ministry of Defence (MoD). The Ministry of External Affairs was also consulted before the decision was taken," sources were quoted as saying by Economic Times on Monday.

Turkey's TAIS was selected last year after it emerged as the lowest bidder for the FSV contract which was given a go-ahead in 2016. The Indian Navy wants to use these boats to carry fuel and other supplies for its warships at sea.

Source: defenceworld.net; 23 March 2020

CORONAVIRUS OUTBREAK DIVERTS NAVY AIRCRAFT CARRIER TO GUAM, ALL 5,000 ABOARD TO BE TESTED

- Mosheh Gains and Janelle Griffith

The Navy says an outbreak of coronavirus aboard an aircraft carrier in the Pacific has forced it to divert to Guam, where all 5,000 aboard will undergo testing.

The USS Theodore Roosevelt remains "operationally capable," according to the acting secretary of the Navy, Thomas Modly.

"Sailors flown off the ship are doing fine, none required hospitalization — mild aches and pains, sore throats," Modly said Thursday at a Pentagon press briefing, adding they were "in quarantine now on Guam."

Other officials said the number of infected sailors has risen sharply — from initial reports of three to "dozens" as of Thursday.

"Our medical team aboard USS Theodore Roosevelt is performing testing for the crew consistent with CDC guidelines, and we are working to increase the rate of testing as much as possible," said the Chief of Naval Operations, Adm. Mike Gilday.

Priority will be given to those showing symptoms or who had been in close contact with sailors who have tested positive already, as well as to essential crew members. Those who test positive will be isolated, Gilday said.

No sailors have been hospitalized or are seriously ill, according to Gilday. Deep cleaning of the ship is ongoing.

"We're taking this day by day," Gilday said. "Our top two priorities are taking care of our people and maintaining mission readiness. Both of those go hand in glove."

The carrier is the first U.S. Navy ship to have a reported an outbreak while at sea. About 800 test kits are aboard and more were being delivered, Modly said.

Source: [nbcnews.com](https://www.nbcnews.com); 27 March 2020

SHIPPING, PORTS AND OCEAN ECONOMY

SHIPPING AND LOGISTICS: AN INDUSTRY JOLTED INTO DIGITIZATION

The coronavirus has turned entire industries on their heads, not least of all the shipping and logistics sector.

Factory shutdowns and stay-at-home orders have disrupted manufacturing and production, with ramifications reverberating throughout global supply chains. Meanwhile, a surge in online shopping as more people stay home has added extra pressure on supply chain, shipping and logistics firms.

Overall, it's not business as usual — far from it — and the shipping arena is now facing unprecedented headwinds.

According to Lionel van der Walt, president and CEO of The Americas for freight payments company PayCargo, the air travel industry presents a picture of one of the most dramatic examples of this disruption. As more airlines cancel thousands of daily flights, shippers and freight forwarders are finding that capacity offered from their usual vendors has been affected, causing both ends of the shipping arrangement to make major adjustments to their strategies.

“There are set relationships in place between forwarders and airlines,” he told PYMNTS in a recent interview. “They have traditional business models in place. However, in the times we’re sitting in now, all of a sudden you don’t have the usual business-to-business relationship.”

Increasingly, airlines that have grounded their passenger flights are ramping up their freight operations, expanding capacity to move goods in the belly of those planes or even removing passenger seats to dedicate the plane entirely to cargo space.

This is undoubtedly good news. Shippers need more capacity to move their goods, and airlines need to keep the revenue flowing as passenger flights all but disappear. Yet as van der Walt explained, without preexisting B2B relationships in place, the process of connecting vendors like airlines to payers like shippers and forwarders is a major hurdle.

Establishing Communication Lines

The demand for capacity today is currently greater than availability, so when an airline opens up planes to transport goods, there can be a confusing scramble for shippers to connect to that airline and strike a deal.

The prevalence of professionals working remotely has made this process even more challenging.

“Right now, part of the problem is you don’t have traditional business systems in place – everyone is working from home,” said van der Walt. “The response times might not be the same. People are setting up new ways of dealing with customer service queries or sales queries. Companies are fighting to make sense of, and adapt to, this new challenging – and at times chaotic – work environment.”

As a facilitator of B2B payments in this arena, PayCargo found itself in a unique position of being able to connect these forwarders to this newly established capacity. It drove the company to recently announce a free communication service that enables the more than 20,000 payers like shippers and forwarders, and the 4,600 vendors like airlines and maritime operators, to communicate new capacity availability and demand, and connect with each other.

While the service doesn’t generate any revenue for PayCargo, van der Walt emphasized the importance of collaboration and innovation in times of crisis to ensure that the shipping and logistics industry as a whole can survive through the current period of volatility.

Long-Term Impacts – And Silver Linings

The impact of the coronavirus is undoubtedly placing dramatic, unprecedented pressure on the shipping and logistics industry for payers, vendors and technology service providers like PayCargo.

Van der Walt said payment volumes are down, and whereas trade credit used to be offered and available to customers freely, vendors are now holding back in an effort to shore up capital. Payments are also increasingly coming through outside of normal business hours, adding more pressure on remote customer service providers to address issues in the early morning or late evening.

These challenges are likely to initiate permanent change in the way the shipping and logistics industry does business. While the coronavirus has already proven to have some devastating consequences, there are some silver linings to be found. In the shipping and logistics sector, van der Walt said he is optimistic thanks to resiliency of this space and the people in it, and he sees some positive outcomes ahead.

As professionals seek ways to send and receive payments remotely while shying away from having to physically touch checks and vouchers, the sector is likely to accelerate its electronic payments adoption, for example. Organizations that were once skeptical of opening up their systems to connect with business partners are also quickly realizing the importance of collaboration, which could lead to growth in data sharing and platform integrations to drive efficiency and digitization.

And at the broader level, the world at-large is quickly coming to terms with the importance of the shipping and logistics industry in aiding the global market.

“People are seeing that in order [for] everybody to succeed and pull through, you have to collaborate and have open, connected systems,” he said. “My hope is that this is going to drive digitization, and a move towards a new environment where people really

pull together to support each other. It's just not about supporting cargo, it's about driving economies."

Source: pymnts.com; 27 March 2020

SHIP MANAGER OFFERS SOLUTION TO CREW CHANGE CRISIS

- Nick Blenkey

Captain Rajesh Unni, founder and CEO of Singapore-headquartered ship manager Synergy Group, is proposing a solution to the seafarer welfare problem caused by coronavirus related restrictions on crew changes. He believes the answer is the organization of collective crew changes at key hub ports by ship managers and owners.

"I believe that collective, carefully managed crew changes at designated ports could help us tackle this crisis," said Captain Unni. "Seafarers returning home would have to undergo a 14-day quarantine period, of course. And those joining ships would need to pass a mandatory medical, including a COVID-19 test."

As a number of organizations including Human Rights at Sea and the International Chamber of Shipping (ICS) have made clear in recent days, the closure of borders and strict quarantine rules are preventing crew changes from being completed in accordance with employment contracts and international conventions including the Maritime Labor Convention.

The upshot is that thousands of seafarers are now stuck on ships unable to return home. Moreover, for those stranded at sea, conditions are deteriorating rapidly.

"In many ports crew changes are simply prohibited," said Captain Unni. "Elsewhere, vessels from some origins are now forced to remain at anchorage in quarantine for up to 14 days before they can dock.

"To make matters worse, it is also becoming increasingly difficult for crew to stock up on fresh fruit and vegetables such are the restrictions placed on port agents and captains.

"And how are seafarers with medical conditions supposed to get treatments if they can't leave the vessel?

"This is a safety issue and it's a mental health issue.

"Seafarers are key workers and they need to be treated with more respect and support. People in any profession should have the right to return home and see their families."

The Synergy Group and Captain Unni is now reaching out to like-minded stakeholders to expedite collective crew changes.

"We have already spoken to a number of leading shipowners and they agree this is a positive way forward," he said. "We have also identified a number of ports where we think this can be actioned.

“We are now approaching leading shipping organizations and have contacted the IMO about how we can move this forward with the utmost haste.”

In any given month around 100,000 seafarers reach the end of their employment contracts and are repatriated, according to ICS.

“This is a time bomb,” said Captain Unni. “Even under normal circumstance, seafaring is stressful and involves spending long periods of time away from friends and family.

“Right now, in the midst of a pandemic when of course people are anxious, thousands are stuck at sea or stranded around the world waiting to join vessels but unable to do so.

“I have heard the argument that seafarers are safest at sea waiting this out. But nobody knows how long this pandemic will last. Doing nothing is not a plan.

“The inability to enact crew changes is a threat to the mental health of seafarers. They can’t stay at sea indefinitely.

“This also has the potential to disrupt the global supply chains millions are relying on in these terrible times. Seafarers will only put up with this uncertainty and poor treatment for so long, and rightly so.

“We all need to come together and find solutions that help our seafarers and protect world trade.”

Source: marinelog.com; 27 March 2020

‘HOW TO GENERATE MORE EMPLOYMENT IN MARITIME SECTOR’

- ECSA

The Federal Government has been urged to utilize the legal implementable priorities for the development of indigenes operation and generation of employment in the maritime industry.

President, National Council of Managing Directors of Licensed Customs Agents (NCMDLCA), Lucky Amiwero, in a letter to the presidency, said Nigeria as it now has overall coordinated maritime legal instruments for massive employment generation and wealth creation based on three legal instruments.

He named the instruments to include: Coastal and inland shipping (Cabotage) Act 5 of 2003; Nigeria Maritime Administrative and Safety Agency Act No. 17 of 2007, and Nigeria Oil and Gas Industry Content Development Act No. 2 of 2010.

He said since the enactment of the three legislative instruments meant for the development of indigenous capacity in the maritime sector, there are no visible implementable activities in line with the provision of the Acts.

“Nigeria is yet to find its feet due to the complete absence of developmental strategy as contained in various Acts, which is to trigger the activities of indigenous operators and generate employment.

“Nigeria as a maritime nation needs to speedily develop, organizational architecture and responsibility to ensure the continued growth of the economy in an increasing, dangerous and competitive environment.

“The three legal instruments that was enacted to build indigenous capacity and generate employment, was left without implementation by the government agency, which has adversely affected the growth of the Nigerian maritime sector by the dominance of multinationals in our maritime trade,” he said.

He noted that the instruments stipulated the funding of NIMASA; management of maritime fund for the development of indigenous shipping and shipping infrastructure; cargo reserved policy and carriage right for Nigerian indigenous operators; and the implementation of the local content in maritime sector, among others.

Amiwero however, recommended that national carriers status should be developed and facilitated by NIMASA for the expansion of fleet for the carriage of shared cargo based on the Act.

“On national carriers, it is the agency that will develop and implement policies and programmes, which will facilitate the growth of the local capacity in ownership, manning and construction of ship and other maritime infrastructure as contained in section 22 (K) of NIMASA ACT 17 of 2007.

“Carriage of bulk or liquid cargo must be initiated by NIMASA to empower the indigenous operators reference to the statute.

“Fifty percent of cargo to and from Nigeria, the sharing ratio must be implemented to galvanize and kick start the participation of indigenous operators.

“Nigeria flagged vessel to carry 50 per cent cargo generated through technical assistance, NIMASA must work out modalities for the proper implementation with conjunction with the Federal government of the technical assistant policy as contained in the law.

“The carriage of crude and petroleum product to and from Nigeria must be implementation to build capacity and generate employment as contained in the law.

“Administer policy for the development of shipping in general. Develop and implement policies and programmes, which will facilitate the growth of local capacity in ownership, manning and construction of ship and maritime infrastructures.

“Review and remove the waiver clause on cabotage of section 9,10 11, 12 and 13 to build capacity and generate employment.

“Implement the provision on Towage, carriage of petroleum product, navigation in inland waters, shipyard and ship and manning so as to build capacity and generate employment and implement the local content on labour requirement, contract and manufacture of the local content,” he stated.

Source: hellinicshippingnews.com; 28 March 2020

MPA: CREW CHANGE FOR CARGO SHIPS UNDER SPECIAL CIRCUMSTANCES IN THE PORT OF SINGAPORE

- Lee Hong Liang

The Port of Singapore remains open for cargo operations and marine services, including bunkering, ship supplies and shipyard repairs, in order to maintain commerce by sea and not disrupt global supply chains, the MPA said in a statement.

Since the onset of COVID-19, Singapore has and remains committed to ensuring the smooth operations of the port.

“We have ensured that operations can run smoothly and efficiently, while adopting many precautionary measures including thermal screening, disinfection of ships and safe distancing. To protect seafarers, we have also put in place procedures to quarantine ships, and treat suspected and confirmed cases of COVID-19”.

With a recent heightened risk of imported cases, Singapore introduced a slate of measures on short term visitors entering or transiting in Singapore. We will need to suspend crew change for the time being, MPA said.

MPA recognises that seafarers play a critical role in global seaborne trade. We have worked closely with international organisations, shipping associations and unions over the years to address the needs and welfare of both local and foreign seafarers. We also hear the feedback from our unions and the industry. We understand that there would be special circumstances where crew will need to disembark or embark the ship, such as:

– the crew has served his/her maximum time on board and no further extension of the employment contract is granted by the flag State;

or

– compassionate grounds e.g. death of family member;

or

– the crew is no longer medically fit to work onboard the ship.

Under such special circumstances, cargo ships may submit their requests to MPA for consideration:

– Supporting documentary evidence, e.g. crew’s articles of agreement, doctor’s certification that crew is no longer able to serve on board the ship; – Travel itinerary;

– Fit-to-travel certificate; and

– Assurance that the signing on and/or the signing off crew must be well for the last fourteen (14) days before joining or leaving the ship and has not been in contact with a known or suspect case of COVID-19 in those 14 days.

Source: maritime1.com; 28 March 2020

INDIA LNG BUYERS RETHINK SPOT PURCHASES AFTER OIL MARKET SLUMP

- Stephen Stapczynski

Indian liquefied natural gas buyers, which have helped soak up a global glut, are re-examining their spot buying plans as the collapse in oil prices may make other fuels more attractive. About 17,000 objects were dumped in the period from the late 1960s to the late 1980s.

At least two Indian importers may slow spot LNG purchases amid concerns industrial customers will shift toward oil products, according to traders with knowledge of their plans. A third will likely be able to continue buying LNG unless oil prices stay subdued for six to nine months, the traders said, speaking on the condition their companies aren't identified.

India's imports of LNG, which it buys mainly for industrial use, have boomed over the past year as record-low spot prices made it the fuel of choice. But since it also competes against oil products in some sectors, tumbling crude prices are erasing that edge. Oil has fallen about 60% this year as Saudi Arabia and Russia fight for market share and the coronavirus pandemic clobbers demand.

"We expect a downside risk to India's LNG imports in 2020 due to a large drop in crude prices," Abhishek Rohatgi, an analyst at BloombergNEF, said by email. "This could make fuel oil cheaper than spot LNG cargoes and reduce demand from industrial users such as the manufacturing sector."

The shifting fuel preference may mean sellers can no longer count on India to help absorb cargoes after China's demand was dented by efforts to contain the virus. India imported a record amount of LNG last month, according to Kpler SAS analyst Rebecca Chia.

Indian companies have issued almost 40 tenders this year seeking cargoes for delivery in 2020, according to data compiled by Bloomberg. That's far more than the eight from all of North Asia, which includes Japan, China and South Korea, where buyers struggled with brimming inventories, weak demand due to a milder winter and Covid-19.

Source: bloomberg.com; 19 March 2020

MARINE ENVIRONMENT

INCREASINGLY MOBILE SEA ICE RISKS POLLUTING ARCTIC NEIGHBOURS

The movement of sea ice between Arctic countries is expected to significantly increase this century, raising the risk of more widely transporting pollutants like microplastics and oil between neighbouring coastal states, according to new research from McGill University in collaboration with University of Colorado Boulder, Columbia University, and Arizona State University.

The study in the American Geophysical Union journal *Earth's Future* predicts that by mid-century, the average time it takes for sea ice to travel from one region to another will decrease by more than half, and the amount of sea ice exchanged between Arctic countries such as Russia, Norway, Canada, and the United States will more than triple.

Increased interest in off-shore Arctic development, as well as shipping through the Central Arctic Ocean, may increase the amount of pollutants present in Arctic waters. And contaminants in ice can travel much faster than those in open water moved by ocean currents.

“This means there is an increased potential for sea ice to quickly transport all kinds of materials with it, from algae to oil,” says researcher Patricia DeRepentigny from University of Boulder Colorado. “That's important to consider when putting together international laws to regulate what happens in the Arctic.”

Historically, floating masses of Arctic sea ice could survive for up to 10 years: building up layers, lasting through each summer and mostly melting locally with a small fraction being transported to other regions. As the climate warms, however, that pattern has been changing.

While overall, the sea ice cover is thinning – and melting entirely across vast regions in the summer – the area of new ice formed during winter is actually increasing, particularly along the Russian coastline and soon in the Central Arctic Ocean. This thinner ice can move faster in the increasingly open waters of the Arctic, delivering the particles and pollutants it carries to waters of neighbouring states.

“In a warmer climate, the faster moving ice can travel longer distances and melt in Arctic peripheral seas belonging to other neighbouring states or even survive the following summer and be carried in regions across the Arctic Ocean where it melts”, says Bruno Tremblay, Associate Professor in the Department of Atmospheric and Oceanic Sciences at McGill University.

Different emissions scenarios

In a previous study, the authors examined the movement of Arctic sea ice from the instrumental surface temperature record starting in 1979, when the first continuous satellite observations began. That study was the first to document an increase in the

amount of sea ice being transported from one region to another over the last four decades. This work has been undertaken by former graduate student of Tremblay, Patricia De Repentigny, lead author of this study.

“The trend was particularly clear looking at the pre-2000 and post-2000 observational records when a clear acceleration of the sea ice decline was apparent,” said Tremblay. “The natural extension of this work, given that global climate models reproduce this observed trend, is to look at the future of ice exchange between neighbouring states of the Arctic.” For instance, Svalbard (an archipelago part of the kingdom of Norway) will see an increasingly large amount of sea ice formed along the Russian coastline and melting in its coastal waters.

The researchers used a global climate model, together with the Sea Ice Tracking Utility (SITU), which was developed by the team, to track sea ice from where it forms to where it ultimately melts during the 21st century.

The researchers considered two different emissions scenarios: the more extreme “business as usual” scenario, which predicts warming of 4 to 5 degrees Celsius by 2100, and a warming scenario limited to 2 degrees Celsius, inspired by the Paris Agreement. They then modeled how the sea ice will behave in both these scenarios at the middle and the end of the century.

In three of these four situations – including both mid-century predictions – the movement of sea ice between Arctic countries increased.

But in the high emissions scenario at the end of the century, they found countries could end up dealing more with their own ice and its contaminants, than ice from their neighbours. This is because with 4 degrees or more of warming in 2100, most sea ice that freezes during winter will melt each spring in the same region where it was formed.

Russia and the Central Arctic

Russia’s exclusive economic zone and the Central Arctic Ocean are two places the researchers expect more ice to form, becoming major “exporters” of ice to other regions in the Arctic.

An exclusive economic zone (EEZ) is an area extending 200 nautical miles from the coastline, over which a state has special rights regarding fishing, shipping, and industrial activities like offshore oil drilling. Five countries have exclusive economic zones in the Arctic Ocean: Canada, the United States, Russia, Norway and Denmark (Greenland).

The researchers found that the amount of ice originating from Russia that then melts in another exclusive economic zone doubles by mid-century.

However, the Central Arctic in the middle of the Arctic Ocean is a place where no country has exclusive economic rights. Due to the Arctic Ocean being more ice free in summers, this will become an attractive shipping route – especially because ships don't need to get permission from another country to travel through it.

“The implications of this study are clear. Faster moving sea ice brings countries closer together, and local coastal pollution or pollution transported by rivers from far inland

locations can have an impact on the coastal environment of even distant countries. The protection of one's environment in the far north therefore must rely on the protection of the environment of all Arctic states," says Tremblay.

About the study

"Increased Transnational Sea Ice Transport Between Neighboring Arctic States in the 21st Century" by Patricia DeRepentigny, Alexandra Jahn, L. Bruno Tremblay, Robert Newton and Stephanie Pfirman is published in *Earth's Future*. The research was supported by funds from Natural Sciences and Engineering Council, the Fonds de recherche du Québec – Nature et Technologies, the Canadian Meteorological and Oceanographic Society, NSERC Discovery Program, MEOPAR, and National Science Foundation. This work is a contribution to the Canadian Sea Ice and Snow Evolution (CanSISE) Network funded by the NSERC Climate Change and Atmospheric Research program.

Source: mcgill.ca; 19 March 2020

SEYCHELLES ADOPTS GROUNDBREAKING MARINE PROTECTION PROGRAMME

Danny Faure, President of the Republic of Seychelles, this week confirmed the 410,000 sq km zones – a milestone that delivers on the world's first debt refinancing for ocean conservation, co-designed by The Nature Conservancy and the Government of Seychelles.

Corals in cooler waters are now better protected and could recolonise reefs affected by future bleaching events. Species including the Indian Ocean's only dugongs, Southern Ocean humpback whales, manta rays, sharks, endangered turtles, and economically vital fish like tuna are now under increased protection.

Oceanic nations like Seychelles are among the most vulnerable to climate change because their economies are often almost totally reliant on marine resources. Failing to plan how to sustain those resources as waters warm or acidify could eventually be ecologically and economically disastrous.

President Danny Faure said: "Seychelles is ultimately an Oceanic State and our people are connected to the ocean. By protecting these large areas we are not only safeguarding our marine environment but balancing economic growth through the management of the resources that the sea provides. We realise we are not the only island nation that faces these challenges. We are proud of this accomplishment and hope that other nations will follow suit."

Seychelles' new marine protection areas cover more than 30 percent of its waters. A little under half are high biodiversity zones, where all extractive uses are either excluded or highly restricted – including the waters around the Aldabra Group that,

like the Galapagos Islands, offer a window into evolutionary processes in a relatively untouched ecosystem.

The rest are 'medium biodiversity and sustainable use' zones where enterprises vital to Seychelles' economy will continue to operate, under new sustainability regulations. More than 200 consultations with Seychelles' citizens, scientists, and key businesses guided the process.

Matt Brown, The Nature Conservancy's Africa programme director, said: "Seychelles' economy is highly dependent on tourism revenue, as are many of its neighbours in Africa. The COVID-19 crisis is a stark reminder that when tourism dollars dry up, communities are left vulnerable, putting lives and livelihoods at risk.

"Crucial sources of income for conservation efforts are also at risk, and the damage to nature and natural resources that people need, such as fisheries, can be profound and long-lasting. TNC is working with partners and governments like Seychelles to diversify essential conservation funding sources to ensure a climate resilient future, even during tough times.

"Leveraging what we've learned from Seychelles, it is our hope that we will be able to scale up and bring this kind of debt conversion work to countries elsewhere in the world."

"Debt-for-conservation" deal

The announcement delivers on a "debt-for-conservation" deal that Seychelles signed with The Nature Conservancy in February 2016, the first for marine conservation and climate adaptation. The Seychelles Government bought back \$21.6 million of its sovereign debt at a discount, using private philanthropic funding and loan capital raised by The Nature Conservancy's NatureVest arm.

The Government now repays those loans to a local trust, the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT), with a portion of repayments funding marine conservation and climate change preparation projects and to implement the marine protection areas.

Designating 30 percent of its marine area as protected means Seychelles has already tripled the UN Convention of Biological Diversity Target 11 for 10 percent marine protection by 2020, and the UN Sustainable Development Goal SDG-14 for 10 percent coastal and marine protection.

The marine protection areas form part of a whole-ocean Marine Spatial Plan that will cover all of Seychelles' ocean, addressing increased management of all marine resources, regulatory attention, and unified government coordination to support the country's blue economy.

The Government of Seychelles led the Marine Spatial Planning initiative with planning, science, and facilitation provided by The Nature Conservancy, with the GOS-UNDP-GEF Program Coordinating Unit.

Source: thefishsite.com; 28 March 2020

GOOD NEWS FOR SHIPPING, BAD NEWS FOR IMO

- Mikhail Voytenko

Britain has suspended checks on ships for compliance with low sulphur fuel regulations as part of wider measures that cut back on inspections to reduce the impact of the coronavirus outbreak on supply chains, the coastguard authority said on Mar 27.

Britain's Maritime and Coastguard Agency (MCA) said it has enacted measures to keep freight moving.

"In terms of enforcing IMO 2020 and ultimately MARPOL Annex VI requirements, as we have suspended port state control inspections, this also means that the checking of compliant fuel has been suspended," an MCA spokeswoman said, referring to the regulations, which were enacted by United Nations shipping agency the IMO.

The MCA said it had suspended ship survey and inspection activity, and relaxed rules such as extensions on ship certificates – all needed to enter ports.

"While we can't compromise on safety, there are a number of temporary measures we have and are taking to ensure shipping doesn't come to a standstill and seafarers can keep working," Katy Ware, MCA director of maritime safety and standards, said in a statement this week.

Source: maritimebulletin.net; 28 March 2020

SEAFLOOR OF FRAM STRAIT IS A SINK FOR MICROPLASTIC FROM ARCTIC AND NORTH ATLANTIC OCEAN

A new study shows: Sea ice and ocean currents transport plastic particles into the deep sea from 2 directions.

Working in the Arctic Fram Strait, scientists from the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI) have found microplastic throughout the water column with particularly high concentrations at the ocean floor. Using model-based simulations, they have also found an explanation for this high level of pollution. According to their findings, the two main ocean currents in Fram Strait

transport the microscopically small plastic particles into the region between Greenland and Spitsbergen from both the Arctic and the North Atlantic. While passing through the Strait, many particles eventually drift to the seafloor, where they accumulate. The experts report on this phenomenon in a study just released in the journal *Environmental Science & Technology*.

Located between the northeast coast of Greenland and the Svalbard archipelago, Fram Strait is the only deep passage between the Arctic and Atlantic Oceans. In its waters, which reach depths of 5,600 metres, two opposing currents flow right by one another like an underwater highway. In the eastern "lane" the West Spitsbergen Current transports warm water north from the Atlantic, while in the other lane the East Greenland Current moves sea ice and frigid water south from the Arctic. This extraordinary combination of circumstances is most likely the reason why experts from the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research while collecting water and seafloor samples at the Arctic deep-sea observatory HAUSGARTEN in Fram Strait, detected extremely high quantities of microplastic particles in the sediment, and intermediate levels in the water column in the summer of 2016.

Major quantities of microplastic in the deep sea and near marginal ice zone

"We found the highest concentration of microplastic particles in water at our northernmost sampling spot near the sea-ice edge," reports AWI biologist and first author Mine Tekman. In the area technically referred to as the marginal ice zone, one cubic metre of surface water contained more than 1,200 microplastic particles, though this hardly came as a surprise to the researchers. "From previous studies we knew that the Arctic sea ice can contain as much as 12,000 microplastic particles per litre of meltwater. When this ice reaches the end of its journey and melts in the northern Fram Strait, it most likely releases its microplastic load into the sea, which would explain the high concentration in the surface waters," she adds.

In contrast, the level of pollution was 16,000 times higher in sediments at the bottom of Fram Strait. The analysis of sediment samples with a Fourier-transform infrared spectrometer (FTIR) revealed up to 13,000 microplastic particles per kilogramme of sediment. "This large quantity of particles and the various types of plastic we found in the sediment confirm that microplastic is continually accumulating on the seafloor of Fram Strait. In other words, the deep sea in this region is a sink for microscopically small plastic particles," says AWI deep-sea expert and co-author Dr Melanie Bergmann.

Inflows of plastic waste from north and south alike

This view was confirmed by ocean circulation modelling, in which the experts simulated the microplastic particles' route to Fram Strait. Depending on the particle size, type of plastic, sinking speed and water depth, some particles travelled up to 650 kilometres before coming to rest on the ocean floor. "The results of our model disprove the notion that microplastic particles could rapidly and almost vertically sink to the

bottom," says Melanie Bergmann. In fact, the plastic waste is caught by the ocean currents and can drift for tremendous distances. Especially the aggregation with organic material like algal remains is what causes the particles to sink from the surface through the water column to the seafloor.

With regard to Fram Strait, this means the majority of the plastic particles stockpiled at its bottom likely originate from remote regions; for instance, the East Greenland Current transports microplastic from the Arctic Ocean to the eastern Greenland slope. While collecting samples in its basin, the researchers above all found ethylene-vinyl acetate, a type of plastic used e.g. for coatings, lacquers, paper, packaging and shoe soles. In contrast, the West Spitsbergen Current carries particles from waters south of Spitsbergen into Fram Strait. This finding was also reflected in the plastic mix found in the respective samples.

It should also be mentioned that more than half of all plastic particles identified were smaller than 25 micrometres in diameter, roughly half the thickness of a fine human hair. "This high percentage of truly minute particles is of course troubling, as it immediately raises the question of how marine organisms respond to these minuscule bits of plastic waste," says Melanie Bergmann. To answer this question, British colleagues are currently investigating whether the crustaceans in the AWI's Arctic zooplankton samples have consumed any plastic.

For their part, the AWI experts now want to explore how the microplastic levels in Fram Strait change throughout the year. To this end, they'll use devices referred to as sediment traps, which are moored at the AWI's Arctic deep-sea observatory HAUSGARTEN and catch the various particles and marine snow that gradually descend from the sea surface, all through the year.

"The study that's just been released offers an important snapshot in which analyses with infrared microscopes allowed us to gain a solid overview of plastic pollution in Fram Strait," says Gunnar Gerdts, an AWI microbiologist and Head of the Microplastic Analysis Group. The experts determined that 39 percent of the particles suspended in the water came from polyamide, which is used to produce e.g. fibres for textiles and fishing nets, while nearly a quarter of all particles in the water column were identified as synthetic rubber (ethylene-propylene-diene rubber), an elastic type of plastic used e.g. in automotive and machine-building, as pond liner, for sealing roofs and house fronts, and as filler in artificial turf. In the seafloor sediments, the team primarily found particles made of chlorinated polyethylene (CPE), which is used e.g. in the manufacture of cables, hoses, films and antilock braking systems (ABS).

Source: [sciencedaily.com](https://www.sciencedaily.com); 27 March 2020

AMID COVID-19 CRISIS, MANILA BAY DISCOLORATION IS ALSO A PUBLIC HEALTH CONCERN. HERE'S WHY.

- Euden Valdez

Aside from the improving air quality in Metro Manila sans public transportation, several online users also noticed that Manila Bay became cleaner during the enhanced community quarantine.

Has the Manila Bay waters turned turquoise?

On Wednesday, videos and photos circulating online showed Manila Bay with turquoise-tinted waters prompting some netizens to believe that it's also the effect of the Luzon-wide quarantine.

However, a Philippine Coast Guard official said that the changed in surface color may be due to harmful pollutants.

“Based on previous reports of Marine Environmental Protection Command, the water’s discoloration occurs when there are pollutants,” said PCG Commodore Arman Balilo in a GMA News report.

International advocacy organization Oceana also urged the Department of Environment and Natural Resources, the Department of Agriculture and the Bureau of Fisheries and Aquatic Resources to further investigate the Manila Bay water discoloration.

“This development requires immediate study and continuous monitoring by experts on the water and its impact on the fisheries resources and marine environment of Manila Bay,” said Gloria Estenzo Ramos, vice president for Oceana in the Philippines.

Oceana and its partners, as well as civil society and the private sectors, oppose the illegal dumping of waste and other chemicals to Manila Bay. It can cause irreversible damage to one of the Philippines’ major marine ecosystems and fisheries.

Apart from its famous sunset, Manila Bay is also known to supply seafood and livelihood to nearby communities.

The non-profit conservation organization cited that a study of National Fisheries and Research Development Institute showed that it is also the fishing ground for sardines, mackerel, mullet (banak), threadfin, bream (bisugo), squid (posit), blue crab, round scad (galunggong), and fusilier (dalagang bukid).

On Thursday, GMA News posted a video of Baseco residents harvesting mussels along the coastline to provide food for their families as they await relief goods from the local government of Manila.

Oceana deemed the discoloration a potential health concern. “The government, while appropriately engulfed in public health response to COVID-19 crisis, should also look into this potential public health and environmental concern, not only for Metro Manila but in nearby provinces, cities and municipalities,” Ramos added.

Asked if the Manila Bay can really become cleaner during enhanced community quarantine, Ramos told Interaksyon that it may pave way for the healing of nature.

“Human activities are the sources of pollution and destruction of our environment. When we stay away, due to ECQ, from activities that cause pollution, destruction and degradation to the natural environment, whether on land, sea or air, nature heals,” she said.

In the same way fisheries management hinders commercial fishing in municipal waters, fisherfolk and villagers reap the benefits of a healthy and bountiful ocean.

Under threat of reclamation

The conservation organization is also among the environmental groups opposing the reclamation of Manila Bay. It is a member of the People’s Network for the Integrity of Coastal Habitats and Ecosystems, an alliance calling for the restoration, instead of reclamation, of the Manila Bay.

Among the newest projects proposed to be developed along the bay’s shorelines include the Sangley International Airport, which was given a Notice of Award by the Cavite Provincial Government just last February.

This came even after President Rodrigo Duterte committed to ban Manila Bay reclamation until the end of his term.

During the enhanced community quarantine, the group is hopeful that reclamation projects are also put on hold.

“As we are in lockdown mode, movements are carefully monitored so it is unlikely that such activities are happening. We hope so,” Ramos said.

Source: interaksyon.com; 27 March 2020

GEOPOLITICS

SAUDI ARABIA TANKER POWER PLAY COULD BACKFIRE AS OIL DEMAND SHRINKS

- Jonathan Saul and Dmitry Zhdannikov

Top exporter Saudi Arabia has chartered an armada of ships to flood the market with additional oil, but in the process has driven freight costs so high refiners are reluctant to take the shipments.

That could leave the kingdom stuck with tens of millions of barrels in expensive ships at anchor when the coronavirus outbreak has destroyed oil demand and international prices have lost more than half their value compared with the start of the year.

Following the failure to persuade Moscow to support deeper output cuts at a meeting of the Organization of the Petroleum Exporting Countries and its allies, known as OPEC+ early this month, Saudi Arabia said it would increase output to record levels in a fight for market share.

Shipping industry sources say Saudi Arabia has booked as many as 25 supertankers and provisionally chartered another 15 vessels, to send oil to new and old customers to undercut Russia. Together the ships can carry 80 million barrels of oil - almost equivalent to a day of global demand.

The rush for ships sent tanker rates soaring, prompting the kingdom to tell its buyers it would abandon its usual policy of providing compensation for freight jumps, making Saudi's deep discounts less attractive.

Several European majors and refiners are engaged in talks with Aramco to try to cut April crude purchases, four trading sources told Reuters, asking not to be identified because of the sensitivity of the issue.

Saudi Aramco declined to comment.

It has yet to be seen whether the world biggest oil company has miscalculated or has a winning strategy that will effectively deprive its rivals of many vessels.

Aramco traditionally stores crude inland at its own hubs, such as Ras Tanura, and in major Asian, U.S. and European consuming centres, where it has storage and pays relatively little compared to the current tanker rates.

Now it needs to store at sea.

“Floating storage is the only way to handle extra oil if the Saudis are testing what they have never done before - record exports of 10 million barrels per day,” a Western consultant who was briefed on Saudi policies said on condition of anonymity.

CONTANGO PLAY

Floating storage is usually dominated by the oil majors and trading houses, which charter ships to store oil they produce or buy cheaply from the market, betting they can resell at a profit when prices recover.

The strategy is known as a contango play, referring to the oil market structure when cargoes for short-term delivery are cheaper than those for later delivery.

It can earn players tens of millions of dollars, as in 2009 when more than 100 million barrels was held at sea.

But Riyadh's chartering frenzy is unlikely to give it the benefits of such a contango play and could also lock out the traditional speculative players, who even at the best of times have to pay for storage, insurance and the cost of moving oil.

The rush for ships pushed tanker rates to record levels of more than \$200,000 a day over the last 10 days. They are still above \$100,000 a day, versus an average of around \$40,000 a day over the last year.

According to traders' estimates, the high freight rate environment requires a 12-month contango premium of at least \$15 per barrel. On Monday, Brent's 12-month future-to-prompt-month premium was around \$10 per barrel.

STORAGE OUT OF NECESSITY

Oil traders will also have to pay a premium for time charters, or leasing for extended periods.

"Someone who was looking to take a time charter three weeks ago for possible storage would have paid around \$30,000 a day and could have made a profit doing that or re-letting the tanker into the market for \$200,000 a day," Richard Matthews, head of research with ship broker E.A. Gibson, said.

"If someone wanted to take a VLCC (very large crude carrier) for even three months currently it will cost around \$110,000 a day. The contango would probably only support \$90,000 a day."

Some traders are undaunted.

Trading house Glencore has chartered one of the world's only two tankers able to carry 3 million barrels of oil for floating storage, while oil major Royal Dutch Shell has taken two VLCCs for sea storage because of the glut. (Additional reporting by Rania El Gamal in Dubai; editing by Barbara Lewis)

Source: [reuters.com](https://www.reuters.com); 23 March 2020

OIL TANKER RATES DOUBLE AS DEMAND FOR STORAGE AND TRANSPORT RESURFACES

- Roslan Khasawneh

SINGAPORE (Reuters) - Supertanker freight rates are on the rise for a second time this month as producers, refiners and traders scramble to secure ships to transport crude or store a fast-growing global glut of oil, industry sources said.

Freight rates for very large crude-oil carriers (VLCC) along the Middle East Gulf to China route were assessed at about \$180,000 a day on Monday, up from some \$125,000 on Friday and a weekly low of about \$90,000 a day on Wednesday, according to several ship broking sources.

"Its difficult to say whether or not the rates will be sustained, or at what levels, but generally looking at Saudi's export plans for the coming months at more than 10 million barrels per day (bpd) - as well as the demand for floating storage - then you can expect freight rates to remain strong," said Anoop Singh, head of tanker research in Asia at Braemar ACM Shipbroking.

"But how strong is the question," said Singh, adding that forward prices for VLCCs for the second quarter were trading at some \$170,000 a day for the Middle East to China route

With world demand for oil forecast to plunge 15 million to 20 million bpd, a 20% drop from last year, traders are increasingly being forced to park crude in storage to take advantage of a record gap between spot and future prices.

The contango spread between May and November Brent crude futures has hit a record \$13.45 a barrel while the six-month spread for U.S. crude widened to minus \$12.85 a barrel, the biggest discount since February 2009.

In a contango market, prices in the short term are lower than in future months, which encourages traders to store oil for sales in the future at a higher price.

"Almost all the spot (tanker) deals right now have floating storage tied into them - that's the only way to make money. You're not going to make money trading the cargo now," said Ashok Sharma, managing director of shipbroker BRS Baxi in Singapore.

While onshore storage space is typically cheaper than floating storage, traders are increasingly seeking to store oil on tankers as onshore space becomes increasingly scarce.

VLCC time charter rates for floating storage jumped to as much as \$120,000 per day by Monday, up from about \$40,000 per day at the start of the month, the shipping sources said.

Even at those rates, by storing oil onboard VLCCs for six months, traders could lock in as much as \$7 million to \$8 million in profit at current market prices, the sources said.

This is the second time this month freight rates have spiked after a surge in demand to ship the flood of crude oil unleashed by a battle for market share between Saudi Arabia and Russia.

Source: [reuters.com](https://www.reuters.com); 30 March 2020

RUSSIAN AID TO ITALY LEAVES EU EXPOSED

- Robert Emmott and Andrew Osborn

Russia's military plane loads of aid to Italy to combat the spread of coronavirus have exposed the European Union's failure to provide swift help to a member in crisis and handed President Vladimir Putin a publicity coup at home and abroad.

Italy has been thankful for the Russian decontamination units and army medical staff sent over the past four days, contrasting it with a piecemeal response by EU states.

But senior EU and NATO diplomats and officials see the assistance less as generosity and more as a geopolitical move asserting Russian power and extending influence.

"The Italians made a general request for assistance and the Russians are sending military doctors and military equipment by military planes," a senior EU diplomat said.

"That sends a signal."

Russian gas imports help fuel Italy's power plants and Rome has long called for a relaxation of EU sanctions imposed on Moscow over Russia's annexation of Crimea in 2014. The penalties have been repeatedly renewed while Moscow backed separatists elsewhere in Ukraine.

Rome denies the aid signals a merging of geopolitical interests.

"There are no new geopolitical scenarios to trace, there is a country that needs help and other countries that are helping us," Foreign Minister Luigi Di Maio was quoted as saying by Italy's *Il Corriere della Sera* newspaper on Thursday.

"It is not a question of a Cold War, it is a question of reality, or realpolitik, you call it what you like."

'FROM RUSSIA WITH LOVE'

Russia has flown at least 15 flights to Italy using military transport planes with truck-based disinfection units. Eight medical brigades and another 100 personnel include some of its most advanced nuclear, biological and chemical protection troops.

"France has given us 2 million masks, Germany has sent us a few dozen ventilators. (Prime Minister Giuseppe) Conte requested and obtained some planes from Russia that brought 180 doctors, nurses, ventilators and masks," Italy's government commissioner for the coronavirus emergency, Domenico Arcuri, told RAI on Sunday.

Russia's government and its delegation to NATO have published multiple videos of trucks on their way to Bergamo, the epicenter of Italy's coronavirus crisis, on their Twitter accounts while Russian state media showed Italy's foreign minister personally welcoming the first Russian plane.

Labeled "From Russia with Love", planes and trucks bore giant stickers showing heart-shaped Russian and Italian flags next to one another.

By contrast, NATO airlifts of urgent medical supplies to European allies have not grabbed public attention. The European Union has faced delays obtaining face masks and other protective gear while EU governments have closed borders to one another.

NATO militaries are active flying sick patients to hospitals, delivering beds and repatriating citizens, although NATO has not deployed its own biological protection units.

“This is a big success story for Putin. I think the Italians have fallen into a trap,” said a senior NATO diplomat, although he noted that Italy was now receiving more support directly from the alliance. Spain has also requested direct NATO help.

Alexander Baunov, a senior fellow at the Moscow Carnegie Center, noted China and Cuba were also sending medical aid to Italy. “For countries that would like to see the existing world order revised in their favor, the pandemic is an opportunity,” he said.

SANCTIONS RELIEF

The EU and NATO have long accused the Kremlin of using a mix of soft power, covert action and computer hackers to try to destabilize the West by exploiting divisions in society.

Last week, an EU internal document seen by Reuters accused Russian media of deploying a “significant disinformation campaign” against the West to worsen the impact of the coronavirus. Moscow denied any such plan.

While not mentioning Russia by name, the EU’s foreign policy chief Josep Borrell said in his blog this week that the EU needed to be more aware of “a struggle for influence through spinning and the politics of generosity”.

Russia is subject to European Union sanctions on its banking, financial and energy sectors and all 27 governments must agree to renew them every six months.

When asked if Russia expected Italy to return the favor by trying to get EU sanctions lifted, Kremlin spokesman Dmitry Peskov described the notion as absurd.

“We’re not talking about any conditions or calculations or hopes here,” he said on Monday. “Italy is really in need of much more wide scale help and what Russia does is manageable.”

Source: [reuters.com](https://www.reuters.com); 26 March 2020

AMID DEMAND EROSION, CHINA LIKELY TO SUPPLY EQUITY OIL TO INDIA

- Utpal Bhaskar

A sharp fall in global crude oil demand caused by the Covid-19 pandemic may fuel further cooperation between India and China, the world’s third and second-largest oil importers respectively.

Chinese oil giants are keen to offload their share of so-called equity oil to Indian refiners as the viral outbreak has squeezed demand in their home market, said two people with knowledge of the developments.

The development assumes significance as state-run China National Petroleum Corp.'s (CNPC) overseas equity oil and gas production is expected to touch 100 million tonnes by 2020. It also comes in the backdrop of India and China pitted in a geopolitical race in recent years to sew up as much of the world's natural resources and energy assets to meet surging needs for their economies. The rivalry of the two countries has also inflated acquisition costs for these assets in regions such as Africa and South America.

The possibility of India purchasing Chinese equity oil was first discussed by China and India during meetings to form a buyers' bloc to bargain collectively for oil supplies with producers in West Asia. This comes in the latest backdrop of Russia and Saudi Arabia set to flood the global market with cheap oil.

Mint earlier reported that Indian firms are on bargain hunts for diverted cargoes of crude oil and liquefied natural gas (LNG), with Chinese energy firms declaring force majeure to avoid taking delivery of some cargoes.

"If there was something that was available as stressed cargo, we just can't go to the market and pick that. Suppose it is PetroChina, that is registered with us. Now, they were procuring a lot of cargoes and committed themselves to procure something. They also have their own equity crude, which probably they are unable to consume in China, they may try to sell its," said Sanjiv Singh, chairman of state-run Indian Oil Corp. Ltd in a recent interview.

Singh and CNPC chairman Wang Yilin were tasked in 2018 by their respective governments to explore a collaboration, which may include joint sourcing of energy supplies, including crude oil.

PetroChina Co. Ltd is a listed arm of state-owned CNPC. IOC is India's largest refiner and oil marketing company with a majority share in the domestic fuel retail market. It processes 80 million tonnes of crude oil annually and pays around ₹3 trillion to procure the supplies.

"China, India, Korea, Japan—we are the four large importers. So, we are exploring whether there is a possibility of working together? As I said earlier, PetroChina is a large trading company. China has a lot of equity oil overseas. They use their own oil, they trade their own oil," Singh said.

In line with efforts to establish a buyers' bloc to bargain collectively for crude purchases, Li Fanrong, former deputy administrator of China's National Energy Administration, visited New Delhi last year as part of a high-level Chinese delegation to take part in the 6th India-China Strategic Economic Dialogue. Li had visited New Delhi in March last year, following India's petroleum secretary M.M. Kuttu's visit to Beijing in October 2018.

India is also trying to stitch a wider alliance with Japan and South Korea—the world's fourth and fifth-largest oil importers respectively. "So, we were exploring opportunities of working together including taking China's equity oil because you know very well that in spite of whatever we see, we believe that the Asian countries

still are affected by the Asian premium although the sellers may not agree to that concept," Singh said

Source: [livemint.com](https://www.livemint.com); 25 March 2020

US SPACE FORCE LAUNCHES 1ST MISSION EVEN AS ALARMING SPREAD OF COVID-19 PARALYSES COUNTRY

The United States Space Force launched its first national security mission on Thursday, sending an ultra-secure military communication satellite into orbit even as the coronavirus pandemic paralyzes much of the country.

The Lockheed Martin Advanced Extremely High Frequency (AEHF) satellite was launched from Cape Canaveral in Florida at 4:18 pm (2018 GMT) aboard an Atlas V551 rocket. AEHF-6, as the satellite is called, is the sixth and final in the Lockheed Martin AEHF constellation.

It will join the other five, which were launched between 2010 and 2019, on Friday around 0400 GMT after reaching geostationary orbit.

The satellite constellation provides "global, survivable, protected communications capabilities for strategic command and tactical warfighters operating on ground, sea and air platforms," according to Lockheed Martin.

And it gives "senior leadership a survivable line of communications to military forces in all levels of conflict, including nuclear war," it said.

The system features encryption, a low probability of interception and detection, and it is jammer-resistant and able to penetrate the electro-magnetic interference caused by nuclear weapons, it added.

The White House announced the creation of the new Space Force military arm in December, with President Donald Trump calling space "the world's newest warfighting domain."

Source: [news18.com](https://www.news18.com); 27 March 2020

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